

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully solicited.

Claims 1-5 and 7-15 are pending in the application, with Claims 1 and 11 being independent. Claim 1 is amended, inter alia, to incorporate the subject matter of Claim 6. Claim 6 is cancelled without prejudice to or disclaimer of the subject matter contained therein; Claims 7-10 are amended herein to adjust their dependencies accordingly. Claims 1 and 11 are amended to more distinctly recite the subject matter of the invention. Support for the dye being sublimed and penetrated may be found in the specification at least at page 11, line 24 to page 12, line 5. Support for the film-forming resin being an acrylic resin may be found in the specification at least at page 12, line 21 to page 13, line 3. It is submitted that no new matter has been added by the amendments herein.

Claims 1, 5-11 and 15 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by EP 0 732 381 A1 ("Kase et al."). Claims 1-4, 6 and 11-15 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by EP 0 130 789 A1 ("Shintani et al."). Claims 1, 6-11 and 15 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,700,851 ("Banning et al."). Claims 1, 5-11 and 15 were rejected under 35

U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 5,985,988 ("Hodge").

Claims 2-4 and 12-14 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Kase et al. or Banning et al., either of which in view of either JP 11-228655 A or Shintani et al. Claims 2-4 and 12-14 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Hodge in view of Shintani et al.

Applicants respectfully disagree with these rejections as applied to the claims as currently presented. Before addressing the merits of the rejections, Applicants believe it will be helpful to review some features and advantages of the claimed invention. The present invention, as recited in Claim 1, relates to an aqueous ink for ink-jet recording comprising a colored resin particle dispersed in an aqueous medium. The colored resin particle comprises a film-forming resin to which a dye is sublimed and penetrated. The film-forming resin is an acrylic resin. As recited in Claim 11, the invention also relates to a coloring material of comparable scope. When the ink of the invention is applied to a recording medium, a dense resin film, which has been crosslinked and colored, promptly forms. The dye incorporated into the film through sublimation is supposed to maintain a monomolecular state even in the film, so that the film shows excellent color

reproduction properties. Therefore, the present invention provides ink-jet recorded images having excellent color reproducibility and excellent fastness. In Applicants' view, the cited references do not teach or suggest the claimed invention.

Kase et al. discloses an ink-jet recording ink in which the colorant is a urethane-based fine particle polymer containing a coloring material. The fine particle polymer is said to form a coating film at room temperature. Applicants note that according to the disclosed method for producing the fine particle polymer that contains a coloring material, the coloring material is dissolved in an organic solvent together with a monomer constituting the polymer, and then it is incorporated into the polymer upon polymerization. Applicants submit, however, that this reference does not teach or suggest the feature of the present invention that a dye is incorporated into a polymer through sublimation, as recited in amended Claims 1 and 11.

Shintani et al. discloses an ink-jet ink containing colored polyethylene resin fine particles as the colorant. Applicants note that the disclosed methods for producing the colored resin fine particles include the step of performing coloration by adding a basic dye into a polymer emulsion or by conducting polymerization in the presence of a basic dye.

Applicants submit, however, that this reference does not teach or suggest that a dye is incorporated into polymer fine particles through sublimation.

Banning, et al. discloses an ink-jet ink composition comprising a dispersed colored polyurethane. The colored polyurethane is prepared by using a colored prepolymer. Applicants submit, however, that Banning et al. does not teach or suggest production of colored resin fine particles by incorporating a dye into acrylic resin fine particles through sublimation.

Hodge discloses a thermal ink-jet ink comprising a water-dissipatable polyester that is dyed using a disperse dye or solvent-soluble dye. Applicants note that, whereas Hodge's method for coloring the polyester is to heat a water dissipatable polymer and a dye at a temperature of 35 to 150 °C, this reference does not teach or suggest incorporation of a dye into an acrylic resin through sublimation in order to form colored resin fine particles without impairing the color tone of the dye. Nor does it teach or suggest an ink containing such a colored resin.

JP 11-228655 A discloses an aqueous printing ink comprising a polyurethane group emulsion having a minimum film forming temperature of 35 °C or less. Applicants submit that

since it does not disclose ink-jet inks, a person of ordinary skill in the art would not be motivated to combine this disclosure with the ink-jet ink art taught in Kase et al. or Banning et al. Moreover, it does not remedy the above-noted deficiencies of those primary references.

Applicants conclude that the cited references do not teach or suggest the invention as presently claimed, either singly or in the combinations proposed by the Examiner. Reconsideration and withdrawal of the Section 102 and 103 rejections are respectfully requested.

Applicants submit that the present invention is patentably defined by independent Claims 1 and 11. The dependent claims are allowable for the reasons given with respect to their respective independent claims and because they recite features which are patentable in their own right. Individual consideration of the dependent claims is respectfully solicited.

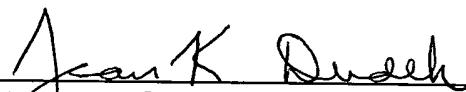
Applicants submit that this application is in condition for allowance, and a Notice of Allowance is respectfully requested.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and reduce the number of issues, and is believed to place this application in condition for allowance. Furthermore, Applicants respectfully submit that a

full appreciation of these amendments and remarks will not require undue time or effort given the Examiner's familiarity with this application. No new claims have been added. Accordingly, entry of this Amendment under 37 C.F.R. § 1.116 is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Amended) An aqueous ink for ink-jet recording, comprising a colored resin particle dispersed [therein] in an aqueous medium, wherein the colored resin particle comprises [comprising] a film-forming resin to which a dye is sublimed and penetrated, and wherein the film-forming resin is an acrylic resin [and a colorant dispersed in a monomolecular state in the film-forming resin].

7. (Amended) An ink-jet recording method comprising a step of ejecting the aqueous ink according to claim 1 [6] through an orifice in correspondence with a recording signal to deposit the ejected ink onto a recording medium.

8. (Amended) An ink-jet recording apparatus comprising an ink container containing the aqueous ink according to claim 1 [6], and a head for ejecting the ink through an orifice in correspondence with a recording signal.

9. (Amended) An ink cartridge comprising an ink container for containing the aqueous ink according to any of claims [claim] 1 to 5 [6].

10. (Amended) A recording unit comprising an ink container for containing the aqueous ink according to claim 1 [6], and a head for ejecting the ink through an orifice in correspondence with a recording signal.

11. (Amended) A coloring material comprising colored resin particles which comprise a film-forming resin to which a dye is sublimed and penetrated, and wherein the film-forming resin is an acrylic resin [a colorant dispersed in a monomolecular state in the film-forming resin].